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Date: 4 December 2009

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Henry Frank Gasbarro
Serial No.	:	10/634,295
Filing Date	:	August 5, 2003
For	:	DISMOUNT TABLET COMPUTER ASSEMBLY FOR WIRELESS COMMUNICATION APPLICATION
Group Art Unit	:	3664
Examiner	:	Brian J. Broadhead
Attorney Docket No.	:	NG(MS)6620

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P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

Pursuant to the Notice of Appeal filed in this case on November 11, 2009, Appellants present herewith their Brief on appeal.

TABLE OF CONTENTS

I. REAL PARTY IN INTEREST

The real party in interest is Northrop Grumman Corporation, as indicated by the assignment recorded August 5, 2003, Reel/Frame 014378/0170, and the assignment recorded November 17, 2003, Reel/Frame 014704/0761.

II. RELATED APPEAL AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1-7, 26-35, and 37-39 are pending and stand rejected under 35 U.S.C. §103. Claims 8-25 and 36 have been cancelled.

IV. STATUS OF AMENDMENTS

A response to a Final Office Action (hereinafter, "Final Office Action") issued on June 1, 2009 was filed on July 23, 2009. No Amendments were made in this response. An Advisory Action Before Filing an Appeal Brief (hereinafter, "Advisory Action") dated August 12, 2009 was issued indicating that the rejection of claims 1-7, 26-35, and 37-39 was maintained. A Notice of Appeal was filed November 11, 2009.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

One aspect of the present invention, recited in claim 1, provides a tablet computer assembly. (Figs. 1-3; Pg. 7, line 17 – Pg. 15, line 4). A global positioning system module produces location information associated with the position of the tablet computer assembly. (Fig. 1, 28; Fig. 2, 70; Fig. 3, 132; Pg. 10, lines 5-12; Pg. 13, lines 15-24). An L-band transceiver broadcasts the location information to a satellite relay and receives location information from at least one portable communications device via the satellite relay. (Fig .1, 26; Fig. 2, 68; Fig. 3, 104; Pg. 10 lines 13-25; Pg. 12, line 27 – Pg. 14, line 3). A processing unit provides messages to the L-band transceiver and updates a display associated with the tablet

computer assembly according the received location information and the location information produced at the global positioning system module. (Fig. 1, 12; Fig. 2, 52; Fig. 3, 102; Pg. 7, lines 18-24; Pg. 8, lines 3-7, Pg. 8, line 27- Pg. 9, line 25; Pg. 11, line 25 – Pg. 12, line 26). A Faraday cage encloses the L-band transceiver and the global positioning system module to reduce electromagnetic interference with the L-band transceiver and the global positioning module. (Fig. 1, 24; Pg. 7, lines 27-29; Pg. 8, lines 8-12; Pg. 10, lines 22-24; Pg. 14, lines 7-9). The Faraday cage is configured as a heat sink to draw heat from the L-band transceiver away from the processing unit and mounted to a back of the processing unit. (Pg. 8, lines 8-12).

Another aspect of the invention, recited in claim 4, which depends from claim 1, provides an input/output board that regulates power and logic connections between the processing unit and the L-band transceiver. (Fig. 2, 76; Fig. 3, 106; Pg. 8, lines 6-8; Pg. 11, lines 3-13; Pg. 11, lines 29-31).

A further aspect of the invention, recited in claim 6, which depends from claim 1, provides a single, detachable antenna that can be operatively connected to the tablet computer by a user to facilitate the transmission and reception of messages by the L-band transceiver and reception of data at the global positioning module. (Fig. 1, 32; Fig. 2, 72; Fig. 3, 132; Pg. 8, lines 15-25; Pg. 10, lines 25-29; Pg. 14, lines 1-3).

A further aspect of the invention, recited in claim 7, which depends from claim 6, provides that the antenna includes a quadrifilar helix antenna. (Pg. 8, lines 24-25; Pg. 14, lines 1-3).

A further aspect of the invention, recited in claim 29, provides a portable communications system. (Figs. 1-3; Pg. 7, line 17 – Pg. 15, line 4). A global positioning system module produces location information associated with the position of the tablet computer assembly. (Fig. 1, 28; Fig. 2, 70; Fig. 3, 132; Pg. 10, lines 5-12; Pg. 13, lines 15-24). A transceiver broadcasts the location information directly to a satellite relay and receives location information from at least one portable communications device via the satellite relay. (Fig .1, 26; Fig. 2, 68; Fig. 3, 104; Pg. 10 lines 13-25; Pg. 12, line 27 – Pg. 14, line 3). A tablet computer is operatively connected to the transceiver and the global positioning module through at least one

aperture in a back plate of the tablet computer. (Fig. 1, 12; Fig. 2, 52; Fig. 3, 102; Pg. 7, lines 18-24). The tablet computer provides messages to the transceiver and updates a display associated with the tablet computer assembly according the received location information and the location information produced at the global positioning system module. (Pg. 8, lines 3-7, Pg. 8, line 27- Pg. 9, line 25; Pg. 11, line 25 – Pg. 12, line 26). A Faraday cage encloses the transceiver and the global positioning system module to reduce electromagnetic interference. (Pg. 10, lines 22-24; Pg. 14, lines 7-9). The Faraday cage includes the back plate of the tablet computer, which forms one wall of the Faraday cage, and a metallic enclosure that encloses the transceiver and the global positioning system module. (Fig. 1, 24; Pg. 7, lines 27-29). The Faraday cage is configured as a heat sink to draw heat from the L-band transceiver away from the tablet computer. (Pg. 8, lines 8-12).

A further aspect of the present invention, recited in claim 30, which depends from claim 29, provides an antenna, operatively connected to the transceiver and the global positioning module, that facilitates the transmission and reception of messages by the transceiver and reception of data at the global positioning module. (Fig. 1, 32; Fig. 2, 72; Fig. 3, 132; Pg. 8, lines 15-25; Pg. 10, lines 25-29; Pg. 14, lines 1-3).

A further aspect of the present invention, recited in claim 31, which depends from claim 29, provides that the antenna includes a detachable quadrifilar helix antenna. (Pg. 8, lines 24-25; Pg. 14, lines 1-3).

A further aspect of the present invention, recited in claim 34, provides a tablet computer assembly. (Figs. 1-3; Pg. 7, line 17 – Pg. 15, line 4). A global positioning system module produces location information associated with the position of the tablet computer assembly. (Fig. 1, 28; Fig. 2, 70; Fig. 3, 132; Pg. 10, lines 5-12; Pg. 13, lines 15-24). An L-band transceiver broadcasts the location information to a satellite relay and receives location information from at least one portable communications device via the satellite relay. (Fig .1, 26; Fig. 2, 68; Fig. 3, 104; Pg. 10 lines 13-25; Pg. 12, line 27 – Pg. 14, line 3). A processing unit provides messages to the L-band transceiver and updates a display associated with the tablet computer assembly according the received location information and the location information

produced at the global positioning system module. (Fig. 1, 24; Pg. 7, lines 27-29; Pg. 8, lines 8-12; Pg. 10, lines 22-24; Pg. 14, lines 7-9). A single, detachable antenna is operatively connected to the L-band transceiver and the global positioning module. The antenna facilitates the transmission and reception of messages by the L-band transceiver and reception of data at the global positioning module. (Fig. 1, 32; Fig. 2, 72; Fig. 3, 132; Pg. 8, lines 15-25; Pg. 10, lines 25-29; Pg. 14, lines 1-3).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1-3, 5, and 26-28 are patentable under 35 U.S.C. §103(a) over U.S. Patent No. 6,148,261 to Obradovich, et al. ("Obradovich") in view of U.S. Publication No. 2003/0066672 to Watchko, et al. ("Watchko").

2. Whether claims 29, 32, and 33 are patentable under 35 U.S.C. §103(a) over Obradovich in view of Watchko.

3. Whether claim 4 is patentable under 35 U.S.C. §103(a) over Obradovich and Watchko in further view of "*Xilinx High-Volume Programmable Logic Applications in Satellite Modern Designs*" by Robert Bielby ("Bielby")?

4. Whether claims 6, 30, 34 and 37-39 are patentable under 35 U.S.C. §103(a) over Obradovich and Watchko in further in view of U.S. Patent No. 6,542,117 to Broughton ("Broughton") and U.S. Publication No. 2002/0173909 to Verbil ("Verbil").

5. Whether claims 7, 31, and 35 are patentable under 35 U.S.C. §103(a) over Obradovich and Watchko in further view of U.S. Publication No. 2003/00302426 to Gilbert, et al. ("Gilbert") and U.S. Patent No. 6,285,341 to Roscoe, et al. ("Roscoe").

VII. ARGUMENTS FOR CLAIMS 1-7, 26-35, and 37-39

A. Rejection of Claims 1-3, 5, and 26-28 Under 35 U.S.C. §103(a)

Claims 1-3, 5, and 26-28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,148,261 to Obradovich, et al. ("Obradovich") in view of U.S. Publication No. 2003/0066672 to Watchko, et al. ("Watchko"). Claim 1 recites a tablet computer assembly

comprising, in pertinent part, a GPS module, an L-band transceiver that transmits location data to a satellite relay, and a Faraday cage that encloses the L-band transceiver and the GPS module to reduce electromagnetic interference with the L-band transceiver and the GPS module, with the Faraday cage being configured as a heat sink to draw heat from the L-band transceiver away from the processing unit and mounted to a back of the processing unit. It is respectfully submitted that claim 1 is patentable over the cited art.

The Examiner relies on Obradovich for a teaching of a personal communication device (PCD) that contains a GPS module, a telecommunications device, a microprocessor, and a display. As noted in the Summary of the Invention, the PCD is a cellular phone sized device intended to provide various functions in a single compact unit Obradovich, col. 2, lines 53-56. The Examiner acknowledges that Obradovich does not teach the use of a Faraday cage being configured as a heat sink to draw heat from the L-band transceiver away from the processing unit, but depends on Watchko to provide this teaching. Watchko appears to teach spraying a thin (< 2.5 mm) metallic coating on a plastic housing of a device to spread heat from components that produce significant heat across the surface of the compact device. The Examiner states that it would have been obvious to utilize the shielding of Watchko in the PCD of Obradovich to reduce electromagnetic interference.

It is respectfully submitted that the combination proposed by the Examiner would not result in a functional device, and thus would not be attempted by one of skill in the art. Any transmitter capable of direct communication with a satellite must provide a signal of significant power, and it will be appreciated that such a transmitter would necessarily produce a considerable amount of heat. Applying the metallic coating of Watchko to the compact PCD of Obradovich would merely spread the heat within the small volume of the PCD, effectively conveying the heat to the processor and other heat sensitive components. Even were the Obradovich PCD compartmentalized to separate the processor from the transmitter, a proposition completely without support in the text, the thin metallic coating would accomplish nothing that the plastic walls of the compartment would not. It is thus respectfully submitted that one of skill in the art would not reasonably expect the application of the Watchko thermal spraying to the

Obradovich system to provide a successful outcome, and therefore, such a combination would not have been obvious to one of skill in the art. *See* KSR v. Teleflex, 550 U.S. 398 (2007); MPEP §2143.02.

Further, claim 1 recites that the Faraday cage is mounted on the back of the processing unit. Neither Watchko nor Obradovich teach mounting a Faraday cage to the back of a processing unit, with Obradovich silent on drawing heat from the L-band transceiver away from the tablet computer and Watchko teaching the use of a conforming metallic coating to avoid the addition of separate heat sinks and heat spreaders to smaller devices and tightly packed boards. *See* Watchko ¶¶0003, 0007. The Examiner asserts that modifying Watchko in this manner would be within the ordinary creativity of one of skill in the art. As discussed previously, the purpose of the Obradovich system is to provide a compact personal communications device that can serve at least as a GPS system, a cell phone, and communications device for connecting to remote sources of data. To mount a Faraday cage, encompassing an L-band transceiver and a GPS module, to the back of the processor in Obradovich would severely compromise the compactness of the device and contradict the intended purpose of the Obradovich invention. An obviousness rejection based on such a modification is improper. In re Ratti, 123 USPQ 349, (CCPA 1959). It is thus respectfully submitted that the current rejection of claim 1 under 35 U.S.C. §103 is improper.

Claims 2, 3, 5, and 26-28 each depend, directly or indirectly, from claim 1 and are patentable for at least the reasons provided. It is thus respectfully submitted that the rejection of claim 1-3, 5, and 26-28 was improper.

B. Rejection of Claims 29, 32, and 33

Claims 1-3, 5, and 26-28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Obradovich and Watchko. Claim 29 recites, in pertinent part, a tablet computer, operatively connected to the transceiver and the global positioning module through at least one aperture in a back plate of the tablet computer, and a Faraday cage that encloses the transceiver and the global positioning system module, the Faraday cage comprising the back plate of the tablet computer

that forms one wall of the Faraday cage and a metallic enclosure that encloses the transceiver and the global positioning system module. It is respectfully submitted that claim 29 is patentable over the cited art.

As discussed above, one of skill in the art would not expect the application of the Watchko thermal spraying to the Obradovich system to successfully redirect the heat output of a satellite transceiver, such that the proposed combination would not be obvious. In addition, it is respectfully submitted that nothing in the cited art would lead one of skill in the art away from the compact design of Obradovich to a system comprising a tablet computer with a metallic enclosure, containing a satellite transceiver and a GPS module, mechanically affixed to the back plate of the tablet computer as recited in claim 29. The Examiner appears to argue that such a configuration is within the ordinary creativity of one of skill in the art, but it is respectfully submitted that one of skill in the art, presented with a reference teaching a compact communications device and a reference teaching a method for providing a metallic coating on the internal casing of a compact device for interference protection, would not be lead to mount an external Faraday cage on the device. Ignoring for the moment that the cellphone-sized device taught in Obradovich is not a tablet computer, as recited in claim 29, it is respectfully submitted that the modular design of the system of claim 29, specifically the tablet computer connected through two or more apertures to communication devices in an external metallic enclosure, provides an advantage not shown in any of the cited art in the ability to more easily replace obsolete components of the device. In the absence of any evidence to the contrary beyond the bare assertion of the Examiner, it is submitted that such a configuration was not obvious to one of skill in the art, and that the rejection of claim 29 was improper.

Claims 32 and 33 each depend, directly or indirectly, from claim 29 and are patentable for at least the reasons provided. It is thus respectfully submitted that the rejection of claim 32 and 33 was improper.

C. Rejection of Claim 4 Under 35 U.S.C. §103(a)

Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Obradovich, in view of Watchko as applied to claim 1, and further in view of "*Xilinx High-Volume Programmable Logic Applications in Satellite Modern Designs*" by Robert Bielby ("Bielby"). Claim 4 depends from claim 1, and is allowable for at least the same reasons. Bielby does not remedy the deficiencies of Obradovich in view of Watchko as described above. It is thus respectfully submitted that the rejection of claim 4 is improper.

D. Rejection of Claims 6, 30, 34 and 37-39 Under 35 U.S.C. §103(a)

Claims 6, 30, 34 and 37-39 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Obradovich, in view of Watchko as applied to claim 1, and further in view of U.S. Patent No. 6,542,117 to Broughton ("Broughton"), and in further view of U.S. Publication No. 2002/0173909 to Verbil ("Verbil"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

The rejection of each of claims 6, 30, 34, and 37-39 depends on the proposed combination of Obradovich and Watchko, which, as discussed above, is improper, as one of skill in the art would not expect the application of the Watchko thermal spraying to the Obradovich system to successfully redirect the heat output of a satellite transceiver. Since the combination of Obradovich and Watchko was improper, it is respectfully submitted that the rejection of claims 6, 30, 34, and 37-39 based on this combination was improper.

E. Rejection of Claims 7, 31 and 35 Under 35 U.S.C. §103(a)

Claims 7, 31 and 35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Obradovich, in view of Watchko, as applied to claim 1, and further in view of Broughton, and in further view of U.S. Publication No. 2003/00302426 to Gilbert, et al. ("Gilbert"), as applied to claim 6, and further in view of U.S. Patent No. 6,285,341 to Roscoe, et al. ("Roscoe"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

The rejection of each of claims 7, 31, and 35 depends on the proposed combination of Obradovich and Watchko, which, as discussed above, is improper, as one of skill in the art would not expect the application of the Watchko thermal spraying to the Obradovich system to successfully redirect the heat output of a satellite transceiver. Since the combination of Obradovich and Watchko was improper, it is respectfully submitted that the rejection of claims 7, 31, and 35 based on this combination was improper.

IX. APPENDICES

The first attached Appendix contains a copy of the claims on appeal.

The second and third Appendices have been included to comply with statutory requirements.

Please charge any deficiency or credit any overpayment in the fees for this Appeal Brief to Deposit Account No. 20-0090.

Respectfully submitted,

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VIII. CLAIMS APPENDIX

1. (Finally Rejected): A tablet computer assembly, comprising:

a global positioning system module that produces location information associated with the position of the tablet computer assembly;

an L-band transceiver that broadcasts the location information to a satellite relay and receives location information from at least one portable communications device via the satellite relay;

a processing unit that provides messages to the L-band transceiver and updates a display associated with the tablet computer assembly according the received location information and the location information produced at the global positioning system module; and

a Faraday cage that encloses the L-band transceiver and the global positioning system module to reduce electromagnetic interference with the L-band transceiver and the global positioning module, the Faraday cage being configured as a heat sink to draw heat from the L-band transceiver away from the processing unit, the Faraday cage being mounted to a back of the processing unit.

2 (Finally Rejected): The tablet computer assembly of claim 1, the processing unit comprising a system memory that contains geographic information concerning an area of interest.

3. (Finally Rejected): The tablet computer assembly of claim 2, the system memory comprising at least one flash memory card.

4. (Finally Rejected): The tablet computer assembly of claim 1, further comprising an input/output board that regulates power and logic connections between the processing unit and the L-band transceiver.

5. (Finally Rejected): The tablet computer assembly of claim 1, the display associated with the processing unit being a touchscreen display.

6. (Finally Rejected): The tablet computer assembly of claim 1, further comprising a single, detachable antenna that can be operatively connected to the tablet computer by a user to facilitate the transmission and reception of messages by the L-band transceiver and reception of data at the global positioning module.

7. (Finally Rejected): The tablet computer assembly of claim 6, the antenna comprising a quadrifilar helix antenna.

8-25. (Cancelled).

26. (Finally Rejected): The tablet computer assembly of claim 1, wherein the Faraday cage is comprised of a back plate of the processing unit that forms one wall of the Faraday cage and a metallic enclosure that encloses the L-band transceiver and the global positioning system module and forms a back of the tablet computer assembly..

27. (Finally Rejected): The tablet computer assembly of claim 26, wherein the back plate includes at least one opening to admit one or more data communication connections and a power supply cable between a digital board and the processing unit, the digital board residing in the Faraday cage and having control circuitry for controlling the L-band transceiver and the global positioning system module..

28. (Finally Rejected): The tablet computer assembly of claim 27, wherein the L-band transceiver comprises a plurality of discrete components, and the Faraday cage comprises metal shielding within the metallic enclosure to reduce electromagnetic interference between the plurality of discrete components within the Faraday cage.

29. (Finally Rejected): A portable communications system, comprising:

a global positioning system module that produces location information associated with the position of the tablet computer assembly;

a transceiver that broadcasts the location information directly to a satellite relay and receives location information from at least one portable communications device via the satellite relay;

a tablet computer, operatively connected to the transceiver and the global positioning module through at least one aperture in a back plate of the tablet computer, that provides messages to the transceiver and updates a display associated with the tablet computer assembly according the received location information and the location information produced at the global positioning system module; and

a Faraday cage that encloses the transceiver and the global positioning system module to reduce electromagnetic interference, the Faraday cage comprising the back plate of the tablet computer that forms one wall of the Faraday cage and a metallic enclosure that encloses the transceiver and the global positioning system module and forms a back of the tablet computer, the Faraday cage being configured as a heat sink to draw heat from the L-band transceiver away from the tablet computer.

30. (Finally Rejected): The portable communications system of claim 29, further comprising an antenna operatively connected to the transceiver and the global positioning module that facilitates the transmission and reception of messages by the transceiver and reception of data at the global positioning module.

31. (Finally Rejected): The portable communications system of claim 29, wherein the antenna comprises a detachable quadrifilar helix antenna.

32. (Finally Rejected): The portable communications system of claim 29, wherein the transceiver comprises an L-band transceiver.

33. (Finally Rejected): The portable communications system of claim 32, wherein the transceiver comprises a plurality of discrete components, and the Faraday cage comprises metal shielding within the metallic enclosure to reduce electromagnetic interference between the plurality of discrete components within the Faraday cage.

34. (Finally Rejected): A tablet computer assembly, comprising:

a global positioning system module that produces location information associated with the position of the tablet computer assembly;

an L-band transceiver that broadcasts the location information to a satellite relay and receives location information from at least one portable communications device via the satellite relay;

a processing unit that provides messages to the L-band transceiver and updates a display associated with the tablet computer assembly according the received location information and the location information produced at the global positioning system module; and

a single, detachable antenna operatively connected to the L-band transceiver and the global positioning module that facilitates the transmission and reception of messages by the L-band transceiver and reception of data at the global positioning module.

35. (Finally Rejected): The tablet computer assembly of claim 34, the antenna comprising a detachable quadrifilar helix antenna.

36. (Cancelled).

37. (Finally Rejected): The tablet computer assembly of claim 34, further comprising a Faraday cage that encloses the L-band transceiver to reduce electromagnetic interference, the

Faraday cage being configured as a heat sink to draw heat from the L-band transceiver away from the processing unit.

38. (Finally Rejected): The tablet computer assembly of claim 37, the Faraday cage comprising a metallic enclosure that encloses the L-band transceiver, wherein a back plate of the processing unit forms one wall of the metallic enclosure and a back of the tablet computer forms the remaining portion of the Faraday cage.

39. (Finally Rejected): The tablet computer assembly of claim 38, wherein the L-band transceiver comprises a plurality of discrete components, and the Faraday cage comprises metal shielding within the metallic enclosure to reduce electromagnetic interference between the plurality of discrete components within the Faraday cage.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.